

CLAIMS:

1. A module for connecting first and second data sources to a network using a single network connection, comprising:

5 first and second interface means respectively for passing data to and from the network and to and from the first data source, the module being arranged to transmit data from the first interface means to the second interface means and from the second interface means to the first interface
10 means so as to allow communication between the first data source and the network when they are connected to the module; and

first and second restricted interface means both for passing data to and from the second data source,
15 the module being arranged to transmit data from the first restricted interface means to the first interface means and from the first interface means to the first restricted interface means so as to allow communication between the second data source and the network when they are connected to
20 the module but not to transmit data between the first restricted interface means and the second interface means, and being arranged to transmit data from the second restricted interface means to the second interface means and from the second interface means to the second restricted
25 interface means so as to allow communication between the second data source and first data source when they are connected to the module but not to transmit data between the second restricted interface means and the first interface means.

30

2. A module as claimed in claim 1, wherein the first restricted interface means passes data between the second data source, when that is connected, and the first interface means only and the second restricted interface means passes

data between the second data source, when that is connected, and second interface means only.

3. A module as claimed in claim 1 including means for
5 determining whether data received into the module via the first interface means is addressed for transmission from the module via the first restricted interface means or via the second interface means and for determining whether data
10 addressed for transmission from the module via the second restricted interface means or via the first interface means, the module being arranged to route the data accordingly.

4. A module as claimed in claim 3, wherein said means for
15 determining the intended destination of data received into the module via the first and second interface means is responsive to an address when the data is in the first and second interface means respectively.

20 5. A module as claimed in claim 1, wherein the first and second interface means are media access controllers.

6. A module as claimed in claim 1, wherein the first and second restricted interface means are arranged to transfer
25 data to and from a Voice Over Internet Protocol (VOIP) telephone.

7. A module as claimed in claim 1 comprising buffering means for regulating the flow of data between the interface
30 and restricted interface means.

8. A module as claimed in claim 7, wherein the buffering means comprises a plurality of FIFO buffers.

9. A module as claimed in claim 8, wherein the plurality of FIFO buffers comprise: a first FIFO regulating the flow of data from the first interface means to the second interface means, a second FIFO regulating the flow of data from the second interface means to the first interface means, a third FIFO regulating the flow of data from the first interface means to the first restricted interface means, a fourth FIFO regulating the flow of data from the first restricted interface means to the first interface means, a fifth FIFO regulating the flow of data from the second interface means to the second restricted interface means and a sixth FIFO regulating the flow of data from the second restricted interface means to the second interface means.

10. A module as claimed in claim 9, comprising at least one further FIFO connected in parallel with one of the said first to sixth FIFOs, the parallel FIFOs carrying data of different importance, the relevant interface or restricted interface means dealing with data from the parallel FIFOs in order of the relative importance of the data carried by the FIFOs.

11. A module as claimed in claim 10, wherein a said further FIFO is connected in parallel with the said fourth FIFO, the module being arranged to place voice data from the first restricted interface means in one of those two FIFOs and other data from the first restricted interface means in the other and to give priority in the transmission of data from those two FIFOs to the voice data.

12. A module as claimed in claim 7, wherein the FIFO buffers are implemented in a memory device with each FIFO being represented by a group of memory locations.

13. A module as claimed in claim 12, wherein the memory

device is a RAM.

14. A module as claimed in claim 12 or claim 13 comprising means for dynamically allocating memory locations to the FIFO
5 buffers.

15. A module as claimed in claim 1, further including means for prioritising the transmission via the first interface means of data that arrive into the module via the second
10 interface means and the first restricted interface means.

16. A module as claimed in claim 15, wherein data arriving via the first restricted interface means takes priority over data arriving via the second interface means.

15 17. A module as claimed in claim 1, further including means for prioritising the transmission via the second interface means of data that arrive via the first interface means and the second restricted interface means.

20 18. A module claimed in claim 17, wherein data arriving via the second restricted interface means takes priority over data arriving via the first interface means.

25 19. A module as claimed in claim 1, wherein the first and second restricted interface means are provided by common circuitry arranged to handle data from the first interface means alternately with data from the second interface means.

30 20. A computer having a module for connecting first and second sources to a network using a single network connection, comprising:

first and second interface means respectively for passing data to and from the network and to and from the

first data source, the module being arranged to transmit data from the first interface means to the second interface means and from the second interface means to the first interface means so as to allow communication between the first data
 5 source and the network when they are connected to the module; and

first and second restricted interface means both for passing data to and from the second data source,

the module being arranged to transmit data from the
 10 first restricted interface means to the first interface means and from the first interface means to the first restricted interface means so as to allow communication between the second data source and the network when they are connected to the module but not to transmit data between the first
 15 restricted interface means and the second interface means, and being arranged to transmit data from the second restricted interface means to the second interface means and from the second interface means to the second restricted interface means so as to allow communication between the
 20 second data source and first data source when they are connected to the module but not to transmit data between the second restricted interface means and the first interface means.

25 21. A VOIP telephone having first and second sources to a network using a single network connection, comprising:

first and second interface means respectively for passing data to and from the network and to and from the first data source, the module being arranged to transmit data
 30 from the first interface means to the second interface means and from the second interface means to the first interface means so as to allow communication between the first data source and the network when they are connected to the module; and

first and second restricted interface means both for passing data to and from the second data source,

the module being arranged to transmit data from the first restricted interface means to the first interface means and from the first interface means to the first restricted interface means so as to allow communication between the second data source and the network when they are connected to the module but not to transmit data between the first restricted interface means and the second interface means, and being arranged to transmit data from the second restricted interface means to the second interface means and from the second interface means to the second restricted interface means so as to allow communication between the second data source and first data source when they are connected to the module but not to transmit data between the second restricted interface means and the first interface means;

wherein the VOIP telephone is connected to the module as the second data source.

22. A computer as claimed in claim 20 further comprising a VOIP telephone connected to the module as the second data source.

23. A VOIP telephone as claimed in claim 21 further comprising a computer workstation as the first data source.

24. A method of using a module as claimed in claim 1, wherein the majority of data flow is between the first and second interface modules.